

Serial No.: 10/522,159

IN THE CLAIMS:

1. (Currently amended) Glass for a multilayer film filter ~~including~~ comprising:

SiO₂, B₂O₃, Na₂O, K₂O, MgO and Al₂O₃, wherein

a SiO₂ content is not less than 37 mol% nor more than 43 mol%;

a B₂O₃ content is not less than 2 mol% nor more than 5 mol%;

a Na₂O content is not less than 5 mol% nor more than 20 mol%;

a K₂O content is not less than 7 mol% nor more than 20 mol%;

a sum of the Na₂O content and the K₂O content is not less than 21 mol% nor more than 27 mol%;

a MgO content is not less than 21 mol% nor more than 37 mol%; and

a Al₂O₃ content is not less than 3 mol% nor more than 10 mol%; and

the glass contains a partial crystal, and a mean linear expansion coefficient of the glass is not lower than $125 \times 10^{-7} \text{K}^{-1}$ in a temperature range of 50°C to 150°C.

2. (Original) The glass for the multilayer film filter according to claim 1, wherein

the partial crystal is a potassium aluminum silicate base crystal.

3. (Canceled)

4. (Currently amended) A method for manufacturing glass for a multilayer film filter, the method comprising:

Serial No.: 10/522,159

A) preparing glass by cooling and solidifying a glass melt made up of SiO_2 , B_2O_3 , Na_2O , K_2O , MgO and Al_2O_3 ;

B) immediately cooling the glass slowly;

C) heating the slowly cooled glass up to a temperature higher than a glass transition temperature;

D) keeping the heated glass at the temperature higher than the glass transition temperature for a fixed period of time;

E) slowly cooling the glass kept at the temperature higher than the glass transition temperature for the fixed period of time so as to obtain partially crystallized glass, wherein

a SiO_2 content is not less than 37 mol% nor more than 43 mol%;

a B_2O_3 content is not less than 2 mol% nor more than 5 mol%;

a Na_2O content is not less than 5 mol% nor more than 20 mol%;

a K_2O content is not less than 7 mol% nor more than 20 mol%;

a sum of the Na_2O content and the K_2O content is not less than 21 mol% nor more than 27 mol%;

a MgO content is not less than 21 mol% nor more than 37 mol%; and

a Al_2O_3 content is not less than 3 mol% nor more than 10 mol%; and

the keeping temperature in step D and a slow cooling rate in step E are so set as to make a mean linear expansion coefficient of the partially crystallized glass not lower than $125 \times 10^{-7} \text{K}^{-1}$.

Serial No.: 10/522,159

5. (Original) The method for manufacturing glass for the multilayer film filter according to claim 4, wherein the keeping temperature in step D and the slow cooling rate in step E are so set that the partially crystallized glass with a thickness of 1 mm has a transmittance of not less than 97% in a wavelength range of 1300 nm to 1600 nm.

6. (New) A multilayer film filter comprising:

a substrate made of glass comprising:

SiO₂, B₂O₃, Na₂O, K₂O, MgO and Al₂O₃, wherein

a SiO₂ content is not less than 37 mol% nor more than 43 mol%;

a B₂O₃ content is not less than 2 mol% nor more than 5 mol%;

a Na₂O content is not less than 5 mol% nor more than 20 mol%;

a K₂O content is not less than 7 mol% nor more than 20 mol%;

a sum of the Na₂O content and the K₂O content is not less than 21 mol% nor more than 27 mol%;

a MgO content is not less than 21 mol% nor more than 37 mol%; and

a Al₂O₃ content is not less than 3 mol% nor more than 10 mol%; and

the glass contains a partial crystal, and a mean linear expansion coefficient of the glass is not lower than $125 \times 10^{-7} \text{K}^{-1}$ in a temperature range of 50°C to 150°C;

a plurality of low refractive index films; and

Serial No.: 10/522,159

a plurality of high refractive index films each having a higher refractive index than the low refractive index films, wherein the low refractive index films and the high refractive index films are alternatively formed on the substrate.